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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/826,954 | 04/15/2004 | Manfred Schneegans | 2001 P 17353 US | 2275 |
| 25962 | 7590 | 12/06/2004 | EXAMINER | |
| SLATER & MATSIL, L.L.P. 17950 PRESTON RD, SUITE 1000 DALLAS, TX 75252-5793 | | | NGUYEN, JIMMY | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2829 | |

DATE MAILED: 12/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/826,954

Applicant(s)

SCHNEEGANS ET AL.

Examiner

Jimmy Nguyen

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0904.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 – 20 are rejected under 35 U.S.C. 102(E) as being anticipated by Kim et al (US 6352454).

As to claim 1, Kim et al disclose a probe needle for testing semiconductor chips comprising:

an elongated member (52, fig 1); and

a contact tip (166, fig 3) attached at one end of the elongated member, wherein at least a portion of the surface of the contact tip (166) is provided with a coating (wearing resistance material 178) of a chemically inert, electrically conductive material (TiN, column 6 lines 23 – 32) that is hard relative to the material of surfaces of the semiconductor chips to be contacted.

As to claims 7, 16, Kim et al disclose (fig 2) a method of forming a semiconductor device, the method comprising:

fabricate a semiconductor wafer (70) to include a number of circuits (different circuit on wafer) and a number of pads (20); therefore Kim et al teach the method of fabricating,

contact a test probe (160) to at least one of the pads (20), the test probe (160) including a contact tip (166) that is coated (wearing resistance material 178) with a chemically inert, electrically conductive material (TiN, column 6 lines 23 – 32) that is hard relative to the at least one pad (20); therefore Kim et al teach the method of contacting, and

perform an electrical test (from the tester, not shown, but inherently in the scope of the invention) by applying a test signal to the semiconductor wafer (70) through the test probe (160); therefore Kim et al teach the method of performing.

As to claim 2, Kim et al disclose a probe needle wherein the elongated member (52, fig 1) includes a fixed end and a free end and wherein the contact member (166) is attached at the free end (162).

As to claims 3, 8, Kim et al disclose (fig 4) a probe needle wherein the entire surface of the contact tip (278) is provided with the coating.

As to claim 4, Kim et al disclose (fig 3) a probe needle wherein the entire surface of the probe needle (168) is provided with the coating (underneath coating 178).

As to claims 5, 9, 17, Kim et al disclose (fig 3) the probe needle wherein the coating comprises titanium nitride (TiN, column 6 lines 23 – 32).

As to claims 6, 10, 18, Kim et al disclose (fig 3) the probe needle further comprising an adhesive layer (there is a bonding material between the TiN layer and the probe body) of titanium arranged beneath the titanium nitride layer (178) so that the adhesive layer is between the surface of the contact tip and the titanium nitride layer (178).

As to claims 19, 20, Kim et al disclose (fig 3) the method further comprising after performing an electrical test, packaging the SM and test IC.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.


4. Claims 11 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al US (6352454).

As to claims 11 - 15, It would have been obvious to one having an ordinary skill in the art at the time of the invention was made to use different method to coat the probe needle for the purpose of providing the durability and reliability of the probe contact needle during the contact process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Nguyen at (703) 306-5858. Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.

JN.
Oct 15, 2004


DAVID ZARNEKE
PRIMARY EXAMINER
10/29/04